

Claims

1. Insulation of the electrical connections of at least two flat flex cables (FFCs) (2,3), which consist of at least electrical strip conductors and insulating material, wherein the insulating material is removed locally and the exposed strip conductors of different FFCs are joined with one another, in an electrically conducting manner, of a so-called matrix (1), characterized in that the matrix (1) is insulated with an insulating material, called sealing material, which consists of a similar material, preferably the same material as the insulating material of the FFCs.

2. Insulation of a matrix according to Claim 1, characterized in that the thickness of the sealing material in the area of the matrix is between one-fifth and threefold, preferably between half and twice the thickness of the insulating material of the FFC.

3. Method for the production of an insulation according to Claim 1 or 2, characterized in that the sealing material is placed in a molten form, as a liquid or thick liquid, within a mold (5,6) around the matrix (1) and by the subsequent action of temperature and pressure in the mold, is joined and hardened with the insulating material of the FFCs.

4. Method for the production of an insulation according to Claim 1 or 2, characterized in that the sealing material is placed in the form of a film in one part, preferably, however, in two parts around the matrix (1) and is welded, over the surface, with itself or one with another and with the insulating material of the FFCs in the area of the matrix by the effect of temperature and pressure in a mold (15,16).

5. Mold to carry out the method according to one of Claims 2-4, characterized in that the insulating material has two stamp surfaces, whose form is adapted to the insulating matrix.

6. Sealing material for use in the method according to Claim 3, characterized in that it must be selected from the group consisting of the following: polyamide (PA), polyvinyl chloride (PVC), thermoplastic polyurethane (TPU), polyethylene (PE), polypropylene (PP), polytetrafluoroethylene (PTFE), polycarbonate (PC), ethylene and tetrafluoroethylene (ETFE), polyethylene terephthalate (PET).

7. Sealing material for use in the method according to Claim 4, characterized in that it is selected from the group consisting of the following: heat-crosslinking films based on thermoplastic polyurethane (TPU), polyethylene terephthalate (PET), polyethylene naphthalate (PEN), polyimide (PI), polyethylene (PE), polypropylene (PP), polyvinyl chloride (PVC), polycarbonate (PC), polytetrafluoroethylene (PTFE), ethylene and tetrafluoroethylene (ETFE), with simple or sandwich structure (double layer or multilayer composite), with or without an adhesive layer or a cement agent layer.

Summary:

The invention concerns the insulation of the electrical connections of at least two flat flex cables (FFCs), which consist of at least electrical strip conductors and insulating material, wherein
5 the insulating material is removed locally and the exposed strip conductors of different FFCs are joined with one another, a so-called matrix.

The invention is characterized in that the matrix is insulated with an insulating material, called sealing material, which is made of similar material, preferably of the same material as the insulating material of the FFCs.

10 In a first variant, the sealing material is placed, as a liquid, in a mold (5, 6) on the matrix (1) and hardened; in a second variant, the sealing material is present in the form of a film and is welded in a mold (15,16) with the insulating material of the FFCs.